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A peripatologist taught 102 blind and partially sighted individuals of all ages mobility and orientation techniques. Volunteers assisted with transportation, followup, consultation, and direct teaching of mobility. Over a 3-year period, the number of lessons per client varied from one to 86, and the number of hours spent by the instructor in direct teaching of mobility declined. Only 25 of 420 new cases were referred for training. Evaluation of the project suggested that a master's degree was not necessary for an adequately trained mobility instructor, and that part-time people in general areas of service to the blind would be of more help than new specialists. Since of the clientele only 6% became candidates for travel with the sliding cane and only 1 to 2% for guide dogs, mobility answers for the majority of the blind must be found. Transportation of blind persons also remains a problem. Construction of the sliding cane is described and illustrated. The bulk of the report outlines the children's lesson plans (mobility instruction for protection and orientation, sensory training--cutaneous, and orientation to travel), mobility instruction lesson plans (inside and outside work, trips in the local residential area, and the city), lesson plans for partially sighted, and hearing training. (KH)

MOBILITY AND ORIENTATION

INSTRUCTION OF

BLIND PERSONS

Association for the Blind of Rochester and Monroe County, Inc.

439 Monroe Avenue

Rochester, New York 14607

31 March 1967

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HIGHLIGHTS

Purpose: This demonstration grant was obtained to strengthen services to the Blind in Monroe County by providing mobility training through the employment of a fully trained peripatologist.

Results: In the first year and a half the peripatologist spent 1246 hours teaching mobility. In the next year and a half, he spent 311 hours teaching mobility. (page 7)

This demonstrated that once the original backlog was served; we did not need a full-time instructor.

One hundred and two individuals were taught under this program. Seventy-seven received lessons ranging from one to ten. (page 5)

In many instances, by utilizing the client's remaining vision, few lessons were warranted.

A hearing laboratory was designed. (Appendix p. LXIX) It proved to be unnecessary as only a few benefitted from it.

We concluded, after training others to teach mobility, that a master's degree is not essential for teaching mobility.

Implications: To fulfill our original purpose of strengthening service, we now see a need for generalized training rather than more specialized degrees.

MOBILITY AND ORIENTATION INSTRUCTION OF BLIND PERSONS

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
OFFICE OF EDUCATION

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Association for the Blind of Rochester and Monroe County, Inc.

439 Monroe Avenue

Rochester, New York 14607

31 March 1967

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EC 002 492

TABLE OF CONTENTS

Page Number

FOREWORD iii

I. INTRODUCTION 1
  A. Background 2
  B. Setting 3

II. Project Program 4
  A. Administration 4
  B. Client 4
  C. Teaching Methods 7

III. Community 9
  A) Advisory Committee 9
  B) V. A. Hospital, Canandaigua, New York 9
  C) Vocational Rehabilitation Service 9
  D) Volunteers 10
  E) Community Agencies 17
  F) Syracuse 17
  G) Social Work Students 17
  H) Committee Work 17

IV. Methodology 18

V. Results 21

VI. Implications 22

VII. Summary and Conclusions 26

APPENDIX

1. Children's Lesson Plans I
  Part I Mobility Instruction for Protection and Orientation I

  Part II Sensory Training - Cutaneous VIII

  Part III Orientation to Travel XXVI

2. Lesson Plans - Mobility Instruction XXXI
  Inside Work XXXI

  Outside Work XLVI

  Trips in Local Residential Area LIII

  City of Rochester LX

FOREWORD

The struggle for freedom made newspaper headlines at the time Mrs. W. Harold Donnelly, Director (now retired) applied for this demonstration grant. It was highlighted by individuals risking their lives to achieve freedom in Berlin.

Their courage and desire for independence were hailed.

May this report silently hail the individuals who struggle for a more subtle freedom. Theirs did not make the headlines. The freedom of movement they sought, through mobility training, depicted their own daily risk to achieve independence.

May their spirit and drive help to free us to find new ways to help more individuals achieve their own freedom.

The indebtedness of this study, if acknowledged individually, would include the names of many clients, staff, and volunteers. Their contributions would be another volume. May we, then, silently express our thanks to the many who made this three year study possible.

James E. Ryder
Director

Association for the Blind of Rochester
and Monroe County, Inc.

I. INTRODUCTION

This demonstration project was initiated to achieve the following general objective.

To strengthen services for blind persons in Monroe County area by providing opportunities to achieve fuller independence and to assemble data for use of other agencies concerned with this problem.

The specific objectives were:

1) To establish in the minds of persons in the blind community the need for competent training in mobility by professional peripatologist.

2) To demonstrate increased capabilities of blind persons, as a result of competent mobility instruction to personnel working with the blind and to other persons using community resources.

3) To establish that an agency serving a geographical area the size of Monroe County, population 586,387, can provide full-time employment for a peripatologist.

4) Assemble certain statistics in regard to the employment of a peripatologist such as number and frequencies of lessons necessary for satisfactory and complete mobility for the employable blind, for the subnormal, for the emotionally disturbed blind and for the newly blinded.

5) Since over fifty percent of intake are over sixty-five years old, to demonstrate the essential need of mobility and orientation training of the aged blind toward independent movement geared to more independent living.

6) To implement this project by the employment of a fully trained peripatologist.

7) Further to implement this project by continuing intake screening of new clients through casework where client may become motivated toward independent movement.

8) To record and keep detailed histories on each client and to assemble a body of knowledge useable in this new field by other agencies who are considering the employment of a peripatologist, but who are without data to guide them in their decision.

A. BACKGROUND

Prior to 1960 the agency employed a totally blind man who had marked ability to travel alone to act as a teacher of cane travel. This was on a spasmodic basis. Only a few referrals were made.

In 1962 the agency moved, from the craft department, a worker who had proved her ability to teach. She was sighted. She spent a few days in Brooklyn at the Industrial Home for the Blind, where she was given time and help to assimilate the methods taught there. She returned to IHB after a month and worked there again to further her knowledge. During 1962 forty-two referrals were made to this worker. She has worked with clients of diverse backgrounds and physical abilities. Her work performance has been satisfactory inasmuch as clients have achieved greater mobility and independence.

An additional twenty-four clients were referred prior to the beginning of the mobility demonstration. The number of clients needing and wanting mobility training plus the experiences of staff resulted in a desire for further investigation.

The Board and the agency executive looked into whether the employment of a peripatologist would be both economically sound and productive to the welfare of the blind community.

In a search for specific data, the agency contacted the American Foundation for the Blind who referred us to the New Hampshire Association for the Blind; for the population they served was similar to that in Monroe

County. They replied to a questionnaire sent by this agency and added comments to the effect that their mobility project, though in the initial stages, was successful. Inquires were made into the mobility project in Syracuse, New York, but little information was obtained since the program was new.

B. SETTING

The Association for the Blind of Rochester and Monroe County, Incorporated is a private Community Chest agency serving the blind since its incorporation in 1914. The prime services offered are recreation, social service, and workshop. The blind population is approximately 1400 in the area served.

The operating budget is $200,000 annually. The staff numbers twelve.

II. Project Program

A. ADMINISTRATION

Shortly after the initiation of the project, an administrative problem arose. It was the solution of this problem that furthered our administrative problems throughout the grant period.

The question was should service be offered through regular classes demanding structure or classes programmed to meet individual need?

Following a series of conferences between the peripatologist and the project director, it was concluded that we must meet the individual needs of our clients.

This decision launched a mobility program of sessions that ranged from one up. In one instance tape recorded lessons were given to a blinded adult.

In an effort to maximize the effectiveness of the peripatologist's teaching time, it was felt the trainee should be brought to the building. Volunteers were utilized to transport the trainees. With the original backlog, the schedule worked. Lessons were drawn and adhered to. Shortly after this group was served neither the lesson plans nor the schedule was valuable. The new clients referred presented many new problems.

Those with partial vision were trained without being blindfolded. The professional staff felt that we should utilize the vision that an individual had and not subject them to being blindfolded. This meant that fewer lessons were needed in many instances.

B. CLIENT

One hundred and two individuals were taught mobility by the peripatologist. Fifty-four were female and forty-eight were male. Fifty-four were considered nearly totally blind and forty-eight had partial vision. Seven individuals died by the time this report was written. Sixteen were diabetic.

The age breakdown is as follows:

Ages	Number of Individuals
1 - 10	1
11 - 20	29
21 - 30	16
31 - 40	12
41 - 50	13
51 - 60	5
61 - 7-	11
71 - 80	9
81 - 90	6
	102

The number of lessons given to an individual ranged from one to eighty-six.

Lessons Received	Individuals
1 - 5	66
6 - 10	11
11 - 15	3
16 - 20	10
21 - 25	3
26 - 30	2
31 - 35	1
36 - 40	2
41 - 45	3
46 - 85	0
86 - 90	1
	102

The high percent of persons receiving lessons under ten was determined by many factors.

The first, the peripatologist began his employment in August 1964 and the lessons given to these individuals preceding the grant period do not show statistically in the report.

The second, many of the younger group had previously received mobility instruction at rehabilitation center and, consequently, needed only refreshment of their skills and/ or orientation.

The third, a high percent of partially sighted (47%) were trained during this period. For many the program did more to establish confidence than to provide mobility skills and only a few lessons were necessary.

The fourth, many of the elderly sought limited mobility objectives.

We had hoped that the mobility instructor would have been able to achieve a 60% teaching time efficiency. When he established his first schedule we sought actual teaching of twenty-one hours per week. The work week was thirty-five hours. We used the booklet "Quantitative Standards for Caseworker's Work Loads"[1] to establish this standard. The ideal would have been for the mobility instructor to have taught 974 hours per year.

Total paid work year		1820 hours (52 weeks x 35 hours)
Vacation time	-	140 hours (4 weeks x 35 hours)
		1680 hours
Holidays	-	56 hours
		1624 hours actually possible to work

Sixty percent is 974, the highest possible hours that the instructor could teach. We did not expect to achieve this. Normal cancellations, bad weather and sickness would not allow us to attain this figure.

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1. "Quantitative Standards for Caseworker's Loads", A Summary of FSAA Member Agency Experiments; Prepared by Helen I. Fish, Consultant in Statistics; Research Department, April 1960.

The figures we did attain however, illustrate one of the reasons that we believe an agency the size of ours does not need a full-time mobility instructor. These were based on the reporting periods for the grant.

		DIRECT TEACHING HOURS
January 1, 1964	- June 30, 1964	524 (6 months)
July 1, 1964	- June 30, 1965	722
July 1, 1965	- June 30, 1966	228
July 1, 1966	- September 26, 1966*	83 (3 months)

Many reasons contributed to the major decrease of direct teaching hours in the third and fourth reporting periods. We will cover these in the section titled community.

C. TEACHING METHODS

We have included the lesson plans used in the project in the Appendix. For many readers the details will be uninteresting, but we feel they depict the effort made and they may be used as a basis for planning mobility programs.

The detailed plans were used for individuals capable of full mobility. These, as our statistics on number of lessons given to individuals indicate, were not significantly used.

The lesson plans for the partially sighted were used many times.

The hearing training proved useful only for a few clients and did not warrant the space or time devoted to it.

Perhaps the major factor that arose was the necessity for the peripatologist to do counseling. It became apparent, in many instances, that the building of confidence was more the issue than mobility training. This was especially true with the partially sighted.

* Peripatologist terminated employment on this date.

In some instances the request for mobility was a practical approach to seek other services. In many instances the rapport that the peripatologist had established proved more useful in counseling than referral to other staff members.

III. COMMUNITY

A. ADVISORY COMMITTEE

The peripatologist in an effort to improve the service involved a number of experienced travelers in a consultative capacity. This group met monthly and discussed the travel problems originally.

After a year of work on various projects, the committee faced the fact that the majority of problems they discussed were not mobility.

The committee finally voted to disband and urged the formation of a recreation committee.

One issue raised by members of the Association and reviewed in part by this advisory committee was transportation for the blind. The Committee viewed mobility as a helpful tool for some, but not the answer for all the blind.

The agency membership, staff and Board are presently contemplating several ideas to attack the broader transportation issue.

B. V. A. HOSPITAL, CANANDAIGUA, NEW YORK

The peripatologist provided two weeks of intensive instructions to an occupational therapist of this facility. Both the mobility instructor and the therapist felt this sufficient time to prepare him to teach the blinded individuals in the hospital.

This type of consultative and training service contributed significantly to the lessening of direct teaching on the part of the peripatologist.

C. VOCATIONAL REHABILITATION SERVICE

The vocational Rehabilitation Agency purchased the services of the peripatologist in Monroe and the neighboring counties. These services ranged from orientation to full mobility training. Through the efforts of the Vocational Rehabilitation Staff the peripatologist services were extended to many individuals living out of Monroe County.

Although pleased with service that charged them only for lessons actually needed; the director of the Vocational Rehabilitation Service justly questioned in December 1965 the amount of time given to mobility teaching by the mobility instructor.

Our correspondence at this time pointed up the fact that mobility should be taught not as a rigid course, but to satisfy individual needs. This, as pointed out in the previous chapter presented many scheduling problems.

Constructive use was made of the remaining time and will be covered under this chapter entitled community. This approach allowed us to estimate that the mobility need in our organization ranges one to two days per week. If we had decided that clients must take the full course; the numbers of people would have been less and we would not have an accurate account of need.

This also resulted in a fair billing to the Vocational Rehabilitation Agency for services that were needed.

D. VOLUNTEERS

Volunteers were utilized in this program in the following areas:

1) Transportation
2) Follow-ups
3) Consultation
4) Direct teaching

1) Transportation

As mentioned in Chapter I, volunteers were utilized to bring the trainees to the agency for mobility during the first stages of the grant. This part of the program was dropped with requests for limited mobility and referrals from outlying areas. It was more practical for the peripatologist to teach in the environment where the person lived. This limited the direct teaching hours and also added to scheduling problems. It did enable us to offer the flexible service we sought.

2) Follow-ups

In an effort to objectively evaluate our program; a group of volunteers were obtained through the volunteer bureau of the Council of Social Agencies to do a follow-up study. We felt that an outside group would do an objective survey. Through the help and suggestion of the research director of the Council of Social Agencies, this was accomplished. The follow-up indicated that the individuals generally found the service beneficial and like the individualized service. After the first year the follow-up procedure was little used. It was an effective tool in our initial re-assessment.

The follow-up reports clearly depicted some of the individual focus described in various parts of this report. For this reason we will quote four of the reports, changing only the names.

First - "Just as I had been forewarned and just as (the social worker) and (the peripatologist) and all persons concerned at the Association anticipated, everyone I spoke to was very enthusiastic about the program. I felt after talking to the (A family) and (their neighbor) that the enthusiasm was for several reasons.

While Mr. A. stated during the interview that he misses (the peripatologist) because he is such a marvelous man and has such an unusually good personality. I felt that the skill he gained as a result of the program outweighs the companionship which it temporarily provided. The training program was apparently explained to him in great detail so that it provided just about what he and Mrs. A. had expected it to do. He goes for a walk every day now, alone and does errands for his wife and children at the hardware store, bakery shop and grocery store. He has been downtown alone four or five times, but does not do this regularly. Mrs. A. has no fears whatsoever about his going out alone and is glad to have him do some of her errands for her. It gives him an opportunity to look forward to having some place he has to get to the next day instead of wondering every night how he will pass the next day. The neighbor no longer sees Mrs. A. following (her husband) when he is walking up the street.

When I first asked the (neighbor) if Mr. A. knew he was being followed or not, she could not answer this. Apparently, Mr. A. has gained a great deal of self-confidence as a result of this training. He will now attend (programs and visit relatives). Consequently, their social life has changed somewhat and perhaps will continue to expand if he continues to branch out more. Before the training he would not walk in front of a neighbor's house if he could hear them working in their yard, not because of anything one might say to him, but because of his great self-consciousness at being blind.

The need that he had for this training has been met, and he is now sorry that he did not take advantage of the more limited training which was offered in years past, rather than just sitting and doing nothing for six years. It not only has made a terrific change in his life, but also that of his wife and children.

Unfamiliar steps which can now be managed in other people's homes seem to fascinate him and give him the greatest feeling of accomplishment. While he felt that the pace of the program was perfect, he stated a desire that it could have lasted longer. He was quite frank to state that (the peripatologist's) company was the only reason for wishing the training could go on. They have no criticism to make and no suggestions for improving the program, and as (the neighbor) also said, her only suggestion for improvement was to train more men to do (this) type of work, as the change has been so remarkable that it is too bad more people are not being trained in this work.

Family and friends still furnish transportation by car, of course, for the many places inaccessible by walking. He no longer feels self-conscious by the difference in his eating. She said that he eats in a much better way. He can manage his food better and does not spill the way he used to. (The relatives no longer have to help him as much)".

The parentheses indicate necessary changes, involving names and detailed information. Written permission was obtained from all involved to conduct the follow-up surveys. The emphasis with the neighbor was stressed as it was felt that this would convey more objectivity. The family had formed a close relationship with the peripatologist and we knew would feel the service positive.

This situation was full mobility as per the lesson plans. It involved eating out. The narrative does depict the need for services beyond mobility.

Second follow-up - "Trying to interview Mr. B. was practically an impossibility. He is such a withdrawn embittered man, he had little to say. When I asked him what he thought about the mobility instructions, he did not seem to comprehent what I was even talking about. Was this, perhaps, a defense at just one more free "hand out"? He said (the peripatologist) had been down to his place three or four times and had taken him around a little, but he acted unaware of the fact that he had even had mobility training. What he expected and what he got were about the same, which seems to be in his case, almost nothing. I am afraid he achieved very little as he does not use it at all.

He made a trip (downtown with a relative) about two or three weeks ago, and has not been out of the house since. He told me he does not leave the house at all. His (family) does not take him any place, and he is at home twenty-four hours a day, every day. Prior to becoming blind, he was downtown every day either before or after working hours, so he had been accustomed to an active life. Perhaps, he led rather a secluded social life, as he did not mention any friends or neighbors.

Since completing his training, he spoke as if he had ventured out just once became thoroughly lost, confused and scared and found himself in the middle of the street. He has not attempted to go out again unless accompanied by someone. He seems to have given up entirely any ventures alone. According to Mr. B. it was not until the last month or so that he has been completely blind. Until then he could at least distinguish the shadows of objects.

My interpretation of your last question is, "Would Mr. B. knowing what he now knows about the training be willing, as a prospective student, to pay for it? Upon questioning, however, he assumed I was asking for payment and did not get idea of my question even upon elaboration. Therefore, he hastened to explain that he could not possibly afford to pay for it. Mr. A. and Mr. B. are certainly a study in contrasts. He did admit that the (social worker) and the (peripatologist) were very kind to him, but from my observation the training seemed to be completely lost".

For many reasons Mr. B. prefers not to travel independently and we have been unable to motivate him to change.

Third follow-up - this report also indicates failure but for other than a personality factor.

"Although Mrs. C. had great hopes for the mobility training, she is very disappointed and feels that it was completely unsuccessful as far as she is concerned. She feels that nothing whatsoever was achieved through this training as she can not go anywhere alone. She maneuvers herself through her (home) and manages to sit in a chair outside the (house) on nice days. That is as much as she can manage without help. The cooking she does for herself is a successful outcome of a different training. Mrs. C. acknowledges the fact that the rural setting of her home with no streets or sidewalks to work with, may be the partial answer for her failure. She has decided now, after an unsatisfactory training with a dog and then cane walking, to accept her affliction and not attempt any other suggestions for help. (The Vocational Rehabilitation Counselor) however, was not quite so negative. He feels that her ability to even get around in her (home) is an improvement over her previous immobility. He blames her failures on lack of guide lines for training her. The fact that Mrs. C. can take care of herself made the fee worthwhile".

This depicts the problem of travel in a rural area. A well-motivated person but unable to have mobility help her because of geographic area.

Fourth follow-up - "Mrs. D. advised us that her doctor had notified her that she was legally blind, she went into a state of shock. The doctor recommended that she take mobility training. Her greatest expectation from training was to gain courage and confidence to carry on a normal life as much as possible. She further indicated that this objective was definitely achieved and that she is making extensive use of the training. Althought (she) is afraid of traffic, she continues to take walks in the neighborhood and do her own shopping. She took great pride in stating that she has worked up enough power and courage to cross streets on her own initiative.

Mrs. D. indicated that she would have gladly paid for the service of mobility training. She stated that she had been eager for someone to explain various things about blindness and how to manage. As to suggestions for the program, she stated that there were none that she could think of, at the moment. However, she advised us that in order to benefit from such a program a good attitude is required".

Mrs. D. had good travel vision and the program amounted to building her confidence through walks. Counseling around this provided this successful result. We believe it would have been a disservice to have blindfolded her and forced her to take a complete training program. She indicated, herself, to the interviewer the reaction that legal blindness caused.

These four reports show a cross-section of the program. They illustrate the differenc es not only in people's motivation, but also eye conditions and physical environment.

Mrs. C. could have been taught mobility techniques very successfully, but it could not help her where she resided. In working with many individuals requiring varied services, we found the major role of the peripatologist to be that of a supporting person. The actual cane techniques was less important than the rapport built to establish confidence.

3) CONSULTATIVE

Many engineers and other interested citizens rendered help in devising the hearing laboratory and the sliding cane.

Jigs were devised for the insertion of the nylon tips. Local radio stations assisted with the recording of traffic sounds. The bus company assisted us in the training for bus travel. Many facets of the project were dependent upon these individuals for development.

4) DIRECT TEACHING

During the last summer of the grant period, a group of teen-age volunteers did the actual mobility teaching. The peripatologist had previously instructed these volunteers. This program proved enriching for all involved. It also tended to substantiate the answer to the question, why was a master's degree necessary for a mobility specialist? This use of a teen-ager with a teen-ager also aided social skills.

The four points illustrate the high degree of volunteer involvement in the program.

E) COMMUNITY AGENCIES

The research director of the Council of Social Agencies and the director of the health division rendered valuable consultative ideas to the project.

They raised the first thought of follow-up and suggested the use of moving pictures to chart progress. Both of these ideas were utilized.

An agreement was reached with Strong Memorial Hospital to render consultative service to the peripatologist.

F) SYRACUSE PROGRAM

The Syracuse Association purchased the services of the peripatologist on a part-time basis in the summer 1966. He rendered direct and consultative services in Syracuse. He recommended the training of a staff person to teach mobility and provide orientation. A good portion of his time was spent in training staff.

G) SOCIAL WORK STUDENTS

The peripatologist was involved with the training of graduate students in social work. Under his guidance the students were blindfolded and taught fundamental mobility skills.

H) COMMITTEE WORK

The peripatologist represented the agency on various committees in the community. He served on a committee on architectural barriers. He offered consultation to community agencies on mobility problems.

IV. METHODOLOGY

Clients were received through several sources. The social service workers within the agency and the Vocational Rehabilitation Service were the main sources. A medical was obtained.

The peripatologist at the first meeting usually worked out an individualized plan. He then rendered the service.

Where indicated the hearing training and the equipment on the mobility training room were utilized.

Lessons and trips were assigned according to the individual need.

Various canes were experimented with and an aluminum cane with a sliding extension was developed. Experimentation showed the collapsible canes to be unsatisfactory and difficult to repair. The aluminoid folding cane did not offer durability for steady travelers. The long aluminum cane with a nylon tip offered the best service,* but presented problems of size on buses and in other public places. It could not be shortened in congested areas and presented a hazard.

A retired engineer developed this sliding cane which is proving to be highly serviceable to the blind in this area. It is available in two sizes.

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* These findings are born out by the report from the sensory aids evaluation and development center - Massachusetts Institute of Technology.

"It is the opinion of the Center's staff that none of the commercially available folding or collapsible cane designs achieved the characteristics of the one-piece unit".

* Final Report to Vocational Rehabilitation Administration Department of Health, Education and Welfare. Washington, D. C. of work done under Contract SAV-1036-65 for the period 1 September through 30 September 1965. from SENSORY AIDS EVALUATION AND DEVELOPMENT CENTER, Massachusetts Institute of Technology, 292 Main Street, Cambridge, Massachusetts 02142, 31 October 1965.

The smaller is 34 inches when closed and may be extended to 52 inches. The longer is 36 inches closed and extends to 57 inches.

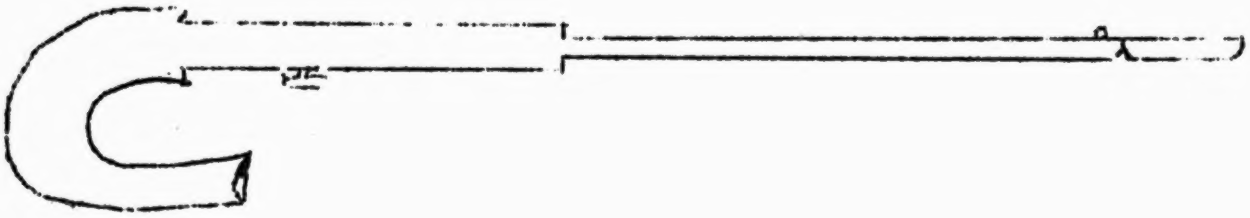
The cane is constructed of aluminum tubing 5/8 inch diameter. This cane has a crook handle covered with a rubber grip. This section is 28 inches long. It has an 18 inch slot, 3/16 inch diameter cut in the front. The internal section is aluminum tube, 1/2 inch diameter. It is fitted with a 1/2 inch diameter nylon tip, 4 inches long. This tip is machined to 3/8 inch for one and one half inches and inserted inside the tube. It is fastened by a screw 7/8 inches from the end of the cane. Both the tip and cane are previously drilled with a 1/8 inch hole. A fastening knob is attached through a threaded section one and one quarter inches from the top of this section. This holds the cane at any desired length.

Drawings are on the next page

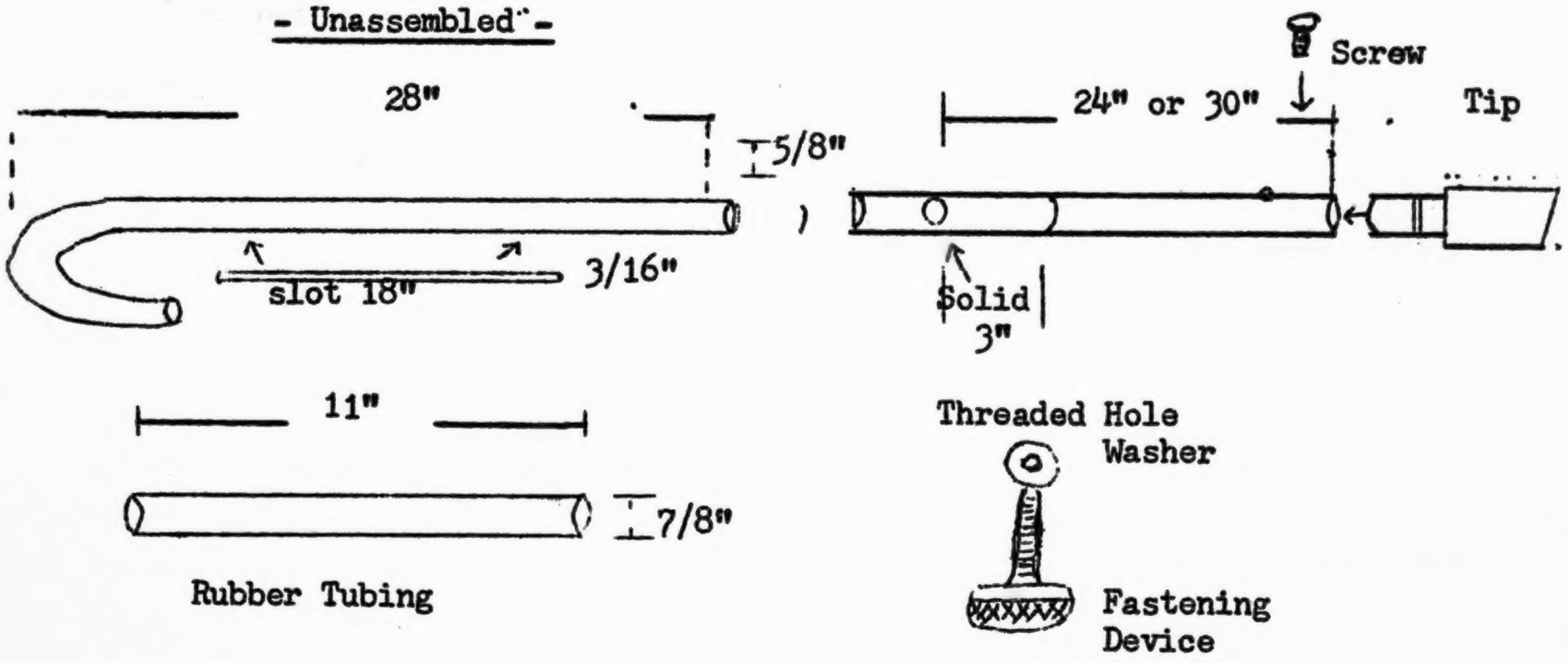
Other equipment utilized is described in the Appendix both under lesson plans and hearing training.

CANE

- Assembled -



- Unassembled -


Screw
28"
5/8"
24" or 30"
Tip
slot 18"
3/16"
Solid
3"
11"
7/8"
Rubber Tubing
Threaded Hole
Washer
Fastening
Device

V. RESULTS

Although the agency's new cases amounted to 420 during the three year grant period, only twenty-five of these individuals were referred for mobility service.

Most of the newly blinded did not need mobility training. Some retained sufficient travel vision; others were too elderly or too ill to undergo even limited training.

As the statistics on hours indicate, the instructor's direct teaching hours steadily declined during this three year period. His remaining hours were utilized in the many areas listed under community. The low percent of new cases able to use mobility training clearly indicates that an agency this size does not need a full-time mobility instructor. Six percent of the new cases do need mobility and a number of known individuals do warrant mobility training as their eyesight fails. These people do need mobility training. We feel an instructor employed for one to one and a half days per week could adequately serve our mobility needs.

If we had structured classes and required all mobility referrals to full lesson plan format; we would now find ourselves requiring another instructor. It is the basic philosophical tenet of flexible service that we chose that formulated this result.

The study also indicates that mobility is an essential and beneficial aid for many people. We believe an agency such as ours should provide mobility training to its clients.

VI. IMPLICATIONS

The implications from this grant as the results show, constitute the idea for two new studies. These studies would relate to two problems, 1) training of mobility instructors and 2) transportation for the handicapped.

A) Training of mobility instructors

We seriously question that it takes a master's degree program for an individual to adequately teach mobility. We believe a mature person able to relate to people and sincerely interested in working with them can successfully teach mobility. We also suggest that, perhaps individuals without a college degree could find this a stimulating occupation.

We believe good health, good vision, good judgement and an ability to work with people as the essential requirements for mobility training. We see mobility as an essential program within our agency but doubt that this would provide a satisfactory career for a person with a master's degree.

In the grant period a therapist was adequately trained to teach limited mobility in two weeks. Teen-age volunteers were capable of teaching in one summer period.

These facts make us question the need for a master's program in mobility.

A further implication that perhaps we can answer revolves around services to the blind population. We wonder if instead of new specialist to serve the blind in agencies the size of ours; if it would not be better to train part-time people in general areas of work with the blind.

We envision a corps of part-time staff members representing the agency in the major population areas of Monroe and the neighboring counties. These six or seven individuals would be trained to teach limited braille, mobility skills, counseling and organization of recreational activities. The time and cost of transportation delays our services to people out of the city. With the limited objectives that many of our elderly clients seek, we feel a person familiar with programs in their local communities and capable of helping to teach them manage their homes would be a great asset to servicing these individuals.

Three of the four follow-ups indicated further human needs, beyond mobility. Recreation, counseling and home orientation should be brought to the individual. We feel it too complex and confusing if these skills must be brought by four different professions. (Peripatologist, home teacher, recreation person, and social worker)

We propose and we are currently seeking through the New York State Commission for the Blind, a grant to train part-time workers in these fundamental skills to serve the visually handicapped. We believe these individuals could offer services in greater depth as they would live in the community.

We could conceive of a person, with a master's degree in any of the four specialized fields mentioned above, administering this program and utilizing professionals in the other fields as instructors in the training segment of the program.

This program would also establish more productive use of the professional skills and help to relieve part of the present manpower shortage.

The statistics on the number of lessons given per individual (page 5) indicate that over 70% of the trainees were seen under ten times. Throughout the grant period individuals who had worked with people readily became capable of teaching mobility skills through a short course.

This indicates that perhaps with a six week training program we could prepare a group of individuals for employment. This would be followed by additional training on the job.

We see this as one way to continue and upgrade our services to the blind.

B) Transportation

This demonstration grant has been able to solve a good part of this problem for some blind in our area. Unfortunately, it has not solved the problems for a good percentage.

Transportation was a major problem when this agency was originally founded. It remains a problem still.

This mobility endeavor leaves us with many new questions in this area.

We find people unable to accept mobility for many reasons. These can be as practical as no public transportation and poor health. They can be emotional problems also.

It is unfortunate, however, that when we view the blind population that the study relating to guide dogs indicated only 1% of the blind was using guide dogs and that only another 1% probably could.[2] We list approximately 6% of our clientele as candidates for cane travel. What then of the 90%?

We find many travel problems. We had a home-bound program where the real problem, in many instances, was not being homebound for other than a lack of suitable transportation.

We have in Rochester a program for transportation related to medical problems. Medical Motors supplies transportation to patients attending hospital clinics. However, we have not answered the problem of transportation for training, recreation and work.

Several suggestions have come through various committees in attempts to solve this issue, not only for the blind, but for other handicapped who are unable to drive.

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[2] "The Importance of Mobility to Blind People and the Potential Need for Dog Guides". Research Center of the New York School of Social Work. Columbia University, 1960. Prepared for distribution by The Seeing Eye, Inc., Morristown, New Jersey.

These suggestions range from non-profit cab companies to specialized busing. This group is well aware that this is a community problem above and beyond that of the blind.

This problem does keep a good percentage of the blind from full participation in community life.

We are presently looking for potential solutions to this problem as it affects a much higher percentage of people than we could effectively serve with the grant.

VII. SUMMARY AND CONCLUSION

The previous pages depicting what was accomplished, have purposefully been few in number.

The detailed work is outlined in the Appendix that follows. We hope you will read at least a section of these plans to gain an idea of the many facets that we explored to reach our conclusions.

In an effort to effectively upgrade services to the blind in Monroe County the Association obtained this grant for a three year period. It provided us with an answer but also with many questions. We found mobility to be an effective and necessary skill for many blinded in our community. We found an initial demand that we could not handle, immediately. During the first year we speculated we might need an additional instructor or two. After the backlog of cases was cleared however, we found a decrease in demand for this service.

We will continue to teach mobility, but require only a part-time instructor.

We also found that we no longer believed in a master's degree program as a requirement for teaching.

New questions arose as to how we could upgrade our services. Ideas for new studies were raised. We feel an obligation to continue the investment and investigation that were made during this three year period. Hundreds of people have been affected by this study in our area. Mobility in some instances stirred new recreational services.

Our continued obligation now rests in providing answers to the question that still remains open. What about the 90% that cannot utilize present mobility techniques?

As our request indicated, our goal was to strengthen services in this county. We believe mobility training has strengthened our services. We believe it also has pointed out flaws in our programs that we are now endeavoring to correct.

We hope the questions we ask will help us in establishing new and more meaningful services.

It is the people who made this study. It is 102 individuals who faced or were faced by their handicap.

It is our conclusion that we must move.

APPENDIX

PART I

Mobility Instruction for Protection and Orientation

Lesson 1

Objective: Knowledge in the use of Human Guide.

Purpose: To enable the child to travel in an unfamiliar area, to cross streets accompanied by a sighted guide and to travel with a companion.

Procedure: Explanation of purpose should be given stressing its use. Demonstration of how to grasp guide's arm (above elbow) how tight, and position of arm. Emphasis on ½ step behind the guide and arm in tight against the body.

- use in turning
- use in ascending and descending stairs
- use in navigation of curbs
- use in approaching and going through doorways (side stepping away from that which is being opened)

Use of Hines Break - explanation as well as demonstration

Repetition necessary

Lesson 2

Objective: Knowledge in the use of cross-body technique (using arm)

Purpose: Technique to be used indoors in fairly familiar surroundings: Affords protection in crowded areas as well as areas with lots of obstacles. Protection is chiefly above the waist.

Procedure: Demonstration of arm position and hand position. Explanation of reasons why arm held in this position and protection given by position of fingers and elbow. Also cushion effect of forearm with palm facing forward. Should be shoulder high. Adjustment of arms for lower objects.

- opportunity to go from wall to wall
- opportunity to find objects, such as chairs, waist high
- use of extended arm in front or to side to trail walls for direction or orientation.
- combination of cross body and trailing technique when necessary
- legs pick up lower objects

Itinerant teacher and parents should insist on use of these techniques when they are necessary.

Lesson 3

Objective: Training in the use of land marks as fixed "direction takers".

Purpose: To enable the child to determine a straight line between two points.

Procedure: Explanation of the need for finding landmarks to use for orientation. Concept of a straight line - shortest distance between two points. Use of straight edges of fixed objects such as:

- door frames
- benches
- desks and chairs
- walls of room
- cabinets, etc.

Concept of direction and position change. Also use of North, South and left and right.

Lesson 4

Objective: Orientation to classroom.

Purpose: To demonstrate to the child the physical appearance of the room and the method for securing this information.

Procedure: Verbal description from all four points. Use of model-Sewell embossing (floor plan) and cardboard model, to illustrate the position of objects within the classroom.

Emphasize the number and position of:

- doors
- walls
- windows
- closets
- tables
- desks
- book shelves
- black boards
- bulletin boards
- light switches
- sink, if any

Constant oral testing to see if they understood the relationships.

Lesson 5

Objective: Actual exploration of room.

Purpose: To transfer what has been learned through listening, maps, and models to physical performance.

Procedure: Have child describe the room pointing out location and number of objects within the room. Then have child walk to various objects keeping in mind that he should:

- make use of the protective techniques already learned
- make use of fixed direction takers
- correct himself if he does not find object on first attempt

Instruction: Watch posture and gait - also instances of hesitation or fear.

Repeat until familiarity is certain.

Lesson 6

Objective: General orientation to physical plant of school.

Purpose: To acquaint the child with his physical environment.

Procedure: Child on tour with human guide. Indicate direction traveling. Indicate turns made and direction landmarks and sound cues. Be sure to point out:

- classrooms
- lockers
- lavatories
- principal's office, guidance director, etc.
- library
- gym
- auditorium
- locker room
    - showers
    - dressing enclosures
    - entrances and exits (fire)
- fire extinguishers and the use of them
- doors leading to stairs
- any observable danger areas

Lesson 7

Objective: General orientation to play area (outside)

Purpose: To acquaint the child with the physical structure of the play area.

Procedure: Take child on human guide. Indicate all turns and direction taken from classroom to play area. Indicate surface changes (asphalt, concrete, dirt or grass). Position of sun for direction. Point out location and number of:

- play apparatus
- play areas (if girls different from boys)
- ball fields
- seats for spectators
- walk around school to give indication of size

Map or models should be used.

Lesson 8

Objective: Actual exploration of play area.

Purpose: To transfer what has been learned through listening, maps and models to physical performance.

Procedure: Have child describe play area pointing out the number and location of objects and area within play section. Have the child walk to objects within the play area.

- make use of protective techniques needed
- use of fixed direction takers
- correct himself if he does not find the object on first attempt

Instructor - watch posture and gait - also instances of hesitation or fear.

Lesson 9

Objective: Trips within the school.

Purpose: To enable the child to experience the method of putting together parts of knowledge about the physical plant of the school in an integrated whole in order to find an objective.

Procedure: Starting point of trip should be in the classroom. Protective and trailing technique should be employed as well as verbal plan of action should be given by child before he starts.

Trips should include:

- from room to school exits - return
- from room to lavatories - return
- from room to drinking fountain - return
- from room to gym - return
- from room to auditorium - return
- from room to various offices and classrooms - return

Lesson 10

Objective: To locate dropped objects

Purpose: To afford maximum protection in squatting to find an article and to use one's hearing in the location of the article.

Procedure: Demonstration of the cross-body (arm) position before squatting. Emphasize squat movement instead of bending. Location is made by circular movements with hand - start small - get larger.

- use variety of objects (metal, wood, plastic)
- identification of sound as well as location

Lesson 11

Objective: To locate and sit in a chair.

Purpose: To enable child to independently locate a chair with little danger to himself and others.

Procedure: Verbal explanation first. Use of cross-body with arm. Contact made, find back - measure - maintain contact - sweep seat with hand in circular motions - then sit carefully.

Part II

Sensory Training - Cutaneous Sense

Kinesthesis

Lesson 1 Identification

Procedure: Have the child identify the parts of his body and, if possible give their function.

The concepts of Right and Left should be introduced.

- right and left, begin at center of body to back center making two half circles
- introduce terms such as right rear, right front, left rear and left front
- explain the importance of this concept in determining direction
- anything can be termed left and right in relation to his own body

Introduce concepts of front, back and side

- things are in front of me
- my left side
- my right side
- behind me
- above me
- below me
- around me (all sides of me)

Lesson 2 Body Position and Movement

Procedure: What it feels like to:

- stand - straight or erect
- slouch - hunch over
- stoop
- bend
- squat
- sit, sit upright, straight
- lie, flat
- turn over
- to roll
- cross legs, arms, fingers
- to point with finger at an object
- to point with toes in a direction
- have feet side by side - spread apart
- walk (slow or fast)
- run - to pace oneself
- to reach for something - distance
- to walk up and down a slope or lean to the right or left
- head and extremities - up and down - and side to side
- to walk "backwards" or "frontwards"
- forward

Lesson 2 Continued

- to sidestep in either direction
- to identify a drop off - use curb or stair - use stick in hand - recognize its dropping
- stop and then go

Things in the environment:

- bend
- lay
- twist
- turn over
- have a right and a left
- have a top and a bottom
- run (water - movement)
- go up and down
- move from side to side
- roll

Goals; Good posture, balance, locomotion, direction, introduction to distance and timing of movement.

Sensory Training - Cutaneous Sense

Perception of pressure and pain

Lesson 1 Awareness

Procedure: Indicate the sense reception possible from just hairs on the skin as well as pressure on skin

- brush hairs with instrument
- have child brush hairs against objects on table
- a blast of air on skin, from window - sensation and direction of it
- sensation of brushing by an object - chair, desk, etc.
- sensation extented by clothing
- pin prick as a warning of danger

Lesson 2 Usefulness

Procedure: Place dishes and other articles on table. Practice reaching for them without knocking them or pushing them. Brushing things as lightly as possible.

Weight discrimination

- wooden blocks of various weight 1 or less lbs. to 5 or more

Lesson 2 continued

- child should make estimates and then weigh for accuracy
- knowledge of too much weight for them to carry

Sensory Training - Cutaneous Sense

Thermal Sense

Lesson 1 Awareness and Usefulness

Procedure: Use ice on something cold and something hot to illustrate that this can be determined. Illustrate too, the sensation of warmth and coolness. Cold - lack of heat.

- ice
- stove - danger as well as helpful
- radiator - direction orientation
- fan, air conditioner
- cold draft - orientation
- sun through a window
- cold from refrigerator
- cold air toward lake or water
- heat from open door of a building
- tell spaces between buildings - air, breeze
- concept of temperature
    - thermometer
    - estimate degree of heat or absence of it. 32 degrees freezing
- heat-of cups - with hot liquid

XIV.

Sensory Training - Cutaneous Sense

Somesthesis

(several senses working together)

Lesson 1 Awareness

Procedure: What it means for things to be:

- wet
- dry
- hard
- soft
- rough
- smooth
- blunt
- sharp
- slick
- greasy
- sticky
- tacky
- still liquid
- running liquid

Both hands and feet as well as other parts of skin

- sloping (up or down)
- inclined
- cracked
- irregular
- lumpy
- hilly
- spongy

Lesson 2 Practical Application

Procedure: Activities designed to allow the child to experience the qualities of:

- wood - hard substance of a tree
- brick - a molded block of clay, usually burned and about $8\frac{1}{2}$ by $4\frac{1}{2}$ by 2 in. (rectangular in shape)
- stone - small piece of rock
- plaster- composition of lime, sand and water for coating walls - usually a finer substance than concrete
- cement - some lime and water, lime is a white powder like substance produced by burning limestone - limestone is a rock composed of calcium carbon
- wool - sheep
- cotton - cotton plant
- silk - from worm
- glass - silica which is made of quartz and sand
- paper - wood pulp and rag
- tar - dark, oily liquid obtained by dry distillation from resinous wood, coal

Lesson 2 continued

- asphalt - a bituminous composition for pavements
- cinderblock - cement mixture composition
- iron --- malleable and ductile metal
- steel
- aluminum
- plastic
- rug
- tile
- marble
- rubber
- various synthetics
- formica
- porcelain

Lesson 3 Activities

Procedure: After samples have been explored, have child identify:

- inside surfaces (wood work, plaster, tile, metal, cloth, aluminum, formica, porcelain)
- objects composed of various substances (scissors, chair, eyeglasses, etc.)
- textures - underfoot (concrete, wood, rug, rubber mat)
- fabric matching - 2 sets of fabrics to match
- outside surfaces (wood, metal, glass, asphalt, shingle)
- texture under foot (glass, dirt, brick, concrete, asphalt, gravel)
- slopes, irregularities in pavement - what they imply for travel

Sensory Training - Cutaneous Sense

Stereognosis

(Three Dimensional Forms)

Lesson 1 Concept of Shapes

Procedure: Instruction in what constitutes:

- angles - relation of two straight lines (sides) emanating from one point (the vertex)
- perpendicular lines - line meeting a given line at right angles
- parallel lines - lines or surfaces lying in the same or approximately the same direction (never touch)
- square - figure or object having four equal sides with four right angles
- rectangle - four sided figure whose opposite sides are parallel - two sides equal - right angles
- circle - a plane figure bounded by a curved line called the circumference, which is everywhere equally distant from a point in the center - (curve, no portion is straight)
- triangle - figure bounded by three sides and having three angles
- cylinder - a circular body of uniform diameter, the extremeties of which are equal parallel lines

- pyramid - square base and triangular sides
- ellipse - oval, egg shaped - oblong with rounded ends
- ball, - round - globe
- concave - hollow and rounded, interior of a circle or whole
- convex - curving outward section of globe

Stereognosis

Lesson 2 Shapes in Physical Environment

Procedure: Have child identify shape of:

- desk
- table
- section of blackboard
- bulletin board
- window frames
- boxes for games and puzzles
- combination of shapes in things
- gym
- ball
- globe
- relate from own experience - shapes that they have felt
- classroom (own)
- other classrooms
- Lobby, etc.

Lesson 3 Practical Application

Procedure: Child should be allowed to:

- sticks or pencils in the shape of forms in lesson 1
- build rooms, houses with blocks designed for that purpose
- compare model of shapes with things in the environment - ex. model of rectangle with classroom
- walk off the shapes listed in lesson 1 or the gym floor
- assemble long boards in the shape of those forms in lesson 1
- to take a trip outside the school for purpose of identifying the shape of things

Sensory Training - Spatial Relations

Measurement and Distance

Lesson 1

Procedure: Explanation of measurement in general - various forms of measurement - use of instrument, use of body. Explain:

- braille ruler - use in determining:
- foot
- yard
- division of inches - $\frac{1}{4}$, $\frac{1}{2}$, etc.
- mile concept $\frac{1}{2}$, $\frac{1}{4}$
- length and width
- height and depth
- concept of measurement in distance

Lesson 2 Activities

Procedure: Child given variety of objects to estimate dimensions of and then measure for accuracy. Record of estimates and comparison with true values should be kept.

- child should walk of distances given estimates - instructor should know true length or width

- estimation of size of buildings (width and length) height approximated by amount of floors (average height of story)

- estimate size of things in physical environment (doors, desks, corridors, etc.)

- estimate size in terms of body

- height of people in terms of self, (sound of voice) hands (big - big person)

Sensory Training - Sense of Smell

Lesson 1 Awareness and Identification

Procedure: Awareness of Crocker-Henderson system of classification of odors

- fragrant
- acid
- burnt
- caprylic (goaty)

Scale 0-8 inclusive

	Fragrant	Acid	Burnt	Caprylic	
Phenylethal alcohol	7	4	2	3	(7423)
20% solution of acetic acid	3	8	0	3	(3803)
methyl salicylate	8	4	5	3	(8453)
toulene	2	4	2	4	(2424)
Damask rose	6	5	2	3	(6523)
Anisol	2	5	7	7	

Lesson 2 Identification and Localization

Procedure: Odors distinguishable in school building - identified and localized - estimation of distance as well

- odors distinguishable outside
- odors from various stores and in various stores used in orientation (department store - clothing odor, perfume, snack bar, rug department, etc.)
- odors that warn of danger
    - escaping gas
    - burning odor from any source (wires, rubbish, food)
- odors for enjoyment
    - perfume
    - aroma of food - prepared or being prepared
    - flowers - other vegetation - outside odors

Sensory Training - Sense of Taste

Lesson 1 Awareness and Identification

Procedure: Identify the four basic taste qualities

- salt - table salt
- sour - citric acid - lemon ascetic - vinegar
- bitter - quinine
- sweet - sugar

- activities designed to identify types of food by taste. Combination of sense of smell and taste.

Orientation to Travel Part III

Lesson 1 Traffic Organization

Procedure: Explanation of the types of vehicles used on streets (cars, trucks, buses)

- size
- shape
- purpose
- individual types
- models used
- actual contact with full size vehicles

- organization of streets and highways
    - relationship between sidewalks and street (model) gas line - poles
    - use of center - white or yellow lines - other divisions
    - use of white lines to distinguish driving lanes (purpose of lanes)
    - cross-walks (sometimes dotted, sometimes solid
    - curbs - rounded or not
    - traffic lights and signs important for travel of pedestrians (their meaning)
    - one way streets
    - types of intersections

- concept of speed and force
    - what does 50 m.p.h., 25 m.p.h., etc., mean
    - slow or fast - excessive
    - impact - use of model train to demonstrate acceleration, pace, breaking, stop
    - demonstration in instructor's auto

- obstacles and danger points
    - excavation work - sound, important
    - driveways - slope to street
    - parking lots
    - service stations
    - alleys
    - sewers
    - gratings
    - basement elevators
    - parking meters, signs of all kinds, poles, hydrants
    - holes in sidewalk

Lesson 2 Getting in and out of Auto

Procedure: Have child braille out car from any point.

- locate glass (front or back) - front if wind-shield wipers present
- follow bottom of side windows to separation of door then down to handle
- open door - place hand on roof line - check back of seat - sweep seat with circular motions
- keep hand on roof - sit - swing legs in (especially girls)
- ask if all clear - then shut door
- practice often until smooth
- getting out - contact with roof - open door gradually so as not to bump car next to it

Lesson 3 Organization of Blocks

(Residential, Small Business, City)

Procedure: Use of Sewell embossing kit to produce maps of 3 types of blocks and what is generally contained in them.

- map of their own neighborhood helpful
- map of school neighborhood
- differences in kinds of traffic
- presence of signal lights or not
- differences in pedestrian traffic

Lesson 4 Actual Travel - Human Guide

Procedure: Trips outside and in the school area

- point out the things that are passed and the use of reflection detection
- point out how sounds change while a person is passing open doorways or alleyways, parking lots, etc.
- knowledge of the physical environment should be given in detail
- three areas should be utilized
    - residential
    - small business
    - city

Lesson 4 continued

- child should reach a point after much orientation and experience with an area, make a trip on his own (human guide) by giving guide directions and pointing out clues.

- thinking out loud at this point in order that the instructor may check child's judgement of a situation.

- street crossings should be done with proper lining up done by the child - should indicate when he would start across according to traffic signal.

LESSON PLANS - MOBILITY INSTRUCTION

Inside Work
Local Area

Lesson 1

Objective: - Knowledge in the use of Human Guide

Purpose: - To enable the client to travel in an unfamiliar area, to cross streets too complex to be crossed independently and to travel with a companion.

Procedure: - Explanation of purpose should be given stressing its use when cane not employed. Demonstration of how to grasp guide's arm (above elbow) how tight, and position of the arm. Emphasis on ½ step behind the guide and arm in tight against the body.

- use in turning
- use in ascending and descending stairs
- use in navigation of curbs
- use in approaching and going through doorways (side stepping away from door that is being opened).

Use of Hines Break - explanation as well as demonstration.

Repeat if necessary.

Lesson 2

Objective: Knowledge in the use of cross body technique (using the arm)

Purpose: Technique to be used indoors in fairly familiar surroundings. Affords protection in crowded areas as well as areas with lots of obstacles. Protection is chiefly above the waist.

Procedure: Demonstration of arm position and hand position. Explanation of reasons why arm held in this position and protection given by position of fingers and elbow. Also cushion effect of forearm with palm facing forward. Should be shoulder high.

- opportunity to go from wall to wall
- opportunity to find objects, such as chairs, waist high
- use of extended arm in trailing the wall for direction and protection. (Knuckles against the wall).

Repetition important.

Lesson 3

Objective: To locate dropped objects

Purpose: To afford maximum protection in stooping to find an article and to use one's hearing in the location of the article.

Procedure: Demonstration of the cross body (arm) position before squatting. Emphasize squat movement instead of bending. Location is made by circular movements with hand - start small - get larger.

- use variety of objects (metal, wood, plastic)
- identification of sound as well as location

Lesson 4

Objective: To Gain Knowledge and Experience in the Use of the Modified Cross-Body Technique (with cane)

Purpose: To enable the client to travel freely and independently and to afford introduction to the long white cane.

Procedure: Description of the cane, diameter, length, grip. Proper method or use. Reason for this method. Protection afforded and when it should be employed. Wall demonstration - Practice walking in obstacle free area in order to gain facility with cane as well as confidence. Lesson complete when wall to wall movement accomplished with successful contact with wall is made.

- watch for nervousness at approach to wall
- shuffling motion
- posture
- flexible free arm movement
- cane tip position - 2nd crook position

Repeat until satisfactory

Lesson 5

Objective: To gain knowledge and skill in the use of the modified cross-body technique in locating and avoiding obstacles.

Purpose: To enable the client to successfully navigate a cluttered corridor or room.

Procedure: Place obstacles in client's path, or parallel to his line of direction. Stress tip pointed to nearest parallel wall or lowest objects. When obstacle encountered, demonstrate side stepping motion and also explain position and direction concept and its importance in further instruction.

- tip contact as well as crook contact
- watch posture and anxious walking or nervousness
- work for confidence in cane protection

Repetition necessary regardless of 1st performance.

Lesson 6

Objective: To gain knowledge and skill in the use of the modified cross-body technique in trailing the wall and locating doorways and other such landmarks.

Purpose: To enable the client to independently locate inside objectives.

Procedure: The method for trailing should be explained. Emphasize tip height, protection afforded, and the need to constantly maintain contact with wall and reasons why.

- verbal directions given and client should find objectives on his own by using information given to him by the cane. Several inside trips should be performed.
- if possible, client should have opportunity to use technique on wood, stone, and rubber surfaces.

Lesson 7

Objective: To gain knowledge and skill in the use of the cane to ascend and descend stairs.

Purpose: To enable client to safely go up and down stairs independently by use of the cane to point out beginning and ending of staircase as well as each intervening stair.

Procedure: Verbal instruction should preceed actual demonstration. Modified cross-body technique used at this point to locate stairs. Emphasize position of toes, the need for checking height, depth and width of stairs as well as sweeping motion at top or bottom. One foot on each step, if possible. Up 2 steps in front - down 1 step in front. Arm parallel to floor; is not moved up or down - pressure on thumb.

- watch for nervousness and loss of balance
- posture and direction as well as technique in the middle of staircase

Repeat until client appears confident and technique is smoothed - repeat often during remainder of instruction.

Lesson 8

Objective: To locate and sit in a chair.

Purpose: To enable client to independently locate a chair with little danger to himself and others.

Procedure: Verbal explanation first. Use of cross-body with arm or with cane. Contact made, find back - measure - maintain contact - sweep seat in circular motions - then sit - cane under feet.

Lesson 9

Objective: To gain knowledge and skill in the use of the touch technique, rhythm technique or outdoor technique.

Purpose: To afford the client maximum protection while using the long white cane and to enable him to travel independently both inside and outside.

Procedure: Explanation of the importance and technique. Position of the arm and hand with special mention of finger position. Emphasis on wrist movement. Alternate tap on opposite side of foot extended and height of arc as well as sound of touch. Back and forth on smooth surface inside.

1. handcentered
2. finger down shaft (extension of finger)
3. grip
4. wrist movement
5. arm straight
6. posture
7. tap
8. arc
9. touch
10. free arm swing
11. direction
12. attitude and appearance of client

Repeat many times.

Lesson 10

Inside or outside

Objective: To use the touch technique in locating and avoiding obstacles.

Purpse: To afford the client an opportunity to make use of the touch technique in traveling in a cluttered corridor or room.

Procedure: Place obstacles in the path of client as well as parallel to his course. Emphasize side-stepping as a unit as well as eventually free movement. Watch technique closely.

- hand centered
- coverage
- touch and arc

Note attitude and appearance.

Repetition necessary

Lesson II

Inside or outside

Objective: Use of touch technique in trailing a wall and finding doorways, etc..

Purpose: To enable a client to orient himself to an area, to find doorways with maximum protection.

Procedure: Tip taps on surface of wall, curb, grass, etc., opening indicated by change in sound, position or texture. Good coverage is necessary. Technique important.

    - closed doors
    - open doors
    - driveways
    - walk ways
    - parking lots
- small trips necessary
- verbal directions - little orientation

Lesson 12

Objective: To gain knowledge and skill in the use of the touch technique in approaching stairs to ascend and descend.

Purpose: To enable the client to use his touch technique when approaching a stair case giving him maximum protection and opportunity to sweep area when leaving last stair.

Procedure: Have a client approach stairs (up and down) from various distances being sure that he does not count steps to and from the stairs. Practice going up and down as well as sweeping motion.

- practice with several staircases desirable both inside and outside

Repeat if needed.

Lesson 13

Objective: To locate and sit in a chair while using the touch technique.

Purpose: To enable a client to independently locate a chair while using touch technique.

Procedure: Approach chair from all directions. Obstacles in path before finding chair.

- use drug stores
- diners
- restaurants
- from outside into restaurant and then find chair

Lesson 14

(Indoor Work)

Objective: Experience with stores large and small.

Purpose: To demonstrate the particular kind of information needed for client to be fully oriented to a store or public building (postoffice, library, church). (Crowded - check up on cane).

Procedure: Orientation with human guide to: Department Store.

- types of outside doors
- types and direction of aisles
- location of elevators and stairs
- location of cash register (sound)
- location of various departments of interest
- location of rest rooms
- number of floors
- surface changes - wood to carpet - to rubber matting
- odors of various sections

Lessons 15, 16, 17, 18

Repeat lesson 14 in grocery store:

- sounds
- odors important
- aisle arrangement
- check out counter placement

Repeat lesson 14 in pharmacy:

- sounds
- odors
- placement of cash register
- fountain position

Repeat lesson 14 in restaurant:

- location of restrooms from where sitting
- location of bar, if any

Repeat lesson 14 in Postoffice or other Public Building:

- location of services
- stairs or elevators, if any

Outside Work

Local Area

Lesson 1

Objective: To gain skill and knowledge in the use of the touch technique while traveling on a sidewalk.

Purpose: To afford the client an opportunity to experience independent travel outside on concrete and asphalt surfaces.

Procedure: Client should walk up and down straight sidewalk to get the feel of pavement as well as grass or curb at his side. Technique should be watched closely - posture, grip, coverage, arc.

- grass or curb should be termed shore-line at this point. Stress sliding effect of tip. Watch for signs of fatigue or boredom.

Repetition important.

Lesson 2

Objective: To gain skill and knowledge in the use of the touch technique in locating and avoiding obstacles.

Purpose: To further the client's ability to travel independently.

Procedure: Client should be given opportunity to approach obstacles. Explanation and demonstration of sidestepping technique away from outside and sweeping technique as well as information received from sweeping rather than probing. Cane should never go above knees. Necessity for exploring what has been touched. The importance of adequate coverage.

- poles
- sides of buildings
- parking meters
- trees
- grass in front
- curb to side

Repetition Important

Lesson 3

Objective: To gain knowledge and skill in the use of the touch technique to locate curbs.

Purpose: To afford the client an opportunity to experience the sensation of the cane dropping in front of him indicating presence of curb.

Procedure: Client should be allowed to start toward a curb at various distances until he is able to react in time. Anticipation should be explained as well as its difference from hesitation. Lining up procedure should be explained. Checking curb for curved or not, depth. When no curb - use land markers and traffic.

Lesson 4

Objective: To gain knowledge and skill in the use of the touch technique in crossing streets at corner without traffic light.

Purpose: To enable the client to cross a street independently.

Procedure: Verbal explanation.

1. Locate curb
2. Line up
3. Traffic pattern
4. Position of cane at curb
5. Step off
6. Straight line direction
7. Location of curb at other side
8. Sweeping action
9. Step up

Various crossings should be made. Various starting points from curb. Take client across after he lines up to give him an idea of width.

Repetition Important

Lesson 5

Objective: Use of touch technique in making a turn at corner. (Change of direction and position).

Purpose: To afford the client an opportunity to have the experience of turning at a corner with maximum protection.

Procedure: Approach curb from various starting points. Cane drops off, some steps back, a turn toward parallel traffic - prepare to cross - cross - locate curb - sweep - step up - turn toward parallel traffic.

Repetition Important

Lesson 6

Objective: To demonstrate the method used to correct a poor street crossing.

Purpose: To illustrate to the client the existence of the human element and the possibility of error when crossing a street.

Procedure: Ideally, this should be demonstrated when he does make a poor crossing but if not, let him follow then show him how to correct. Emphasis right angle turns to inside - quick movement.

- use of traffic

Lesson 7

Objective: To demonstrate the method of crossing a street at an intersection with a traffic light.

Purpose: To illustrate to the client the use of what he has previously learned in combination with traffic on the parallel street to cross at a light.

Procedure:

1. Locate curb
2. Position of cane before crossing
3. Lining up for direction
4. Start when parallel traffic starts
5. Never while parallel traffic moving - wait for change of lights again

Use different sides of the street - should do it without any help - also should make correction when necessary, only when parallel street present - not on lights with green arrow throughout instruction.

Repeat

Lesson 8

Objective: Trips in local residential area.

Purpose: To combine the techniques of mobility as a plan of travel. Trips should afford client an opportunity to make use of all he has learned.

Procedure:

Trip I — Lesson 9

- should consist of mainly of straight sidewalk
- use of driveways or walkways for objectives
- one or two crossings.

Trip II — Lesson 10

- consist of more crossings and changes of direction
- cross some streets, turn on some - do not cross street in front but cross parallel street
- find curb - do not cross any street - travel away from parallel street

Trip III Lesson 11

- increase in length and complexity

Orientation:

- use of stairs (to a church or school)
- more turns
- rough sidewalk
- lots of obstacles

Trip IV Lesson 12

No orientation Variation of Trip II Verbal directions only

Trip V Lesson 13

No orientation Variation of Trip III Verbal directions only

Lesson 14

Objective: Orientation to business area. General

Purpose: To acquaint the client with the information necessary for him to travel in a business area.

Procedure: Take client through on human guide. Start from residential area, proceed to business area. General orientation, naming streets and briefly what stores are located in the blocks. Cover entire business area to be used both sides of the street. Street relationships should be pointed out as well as traffic lights, stop signs or caution lights. Cross-walks as well as landmarks indicating cross walks should be pointed out.

Lesson 15

Objective: Orientation to business area. Specific

Purpose: To acquaint the client with the information necessary for him to travel in a business area.

Procedure: Human guide. Same route as general. Point out each store in block. Key landmarks per store, (steps in front, if any), (merchandise in front, if any), (odors), etc. Relationship of one store to another and all stores in block. Allow client to explore store fronts and landmarks. This orientation should be more physical than verbal. Relationship of stores across street. Distance traveled from street to street. Point out use of traffic patterns in orientation as well as other important sound cues.

Lesson 16

Objective: Traveling in a business area.

Purpose: To give client experience in traveling on his own in a business area.

Procedure: Use of trips.

Trip I — Lesson 17

Verbal Orientation only:

1 Way
- start in residential area
- should cross streets
- watch technique and use of judgement
- should be 3/4 residential, ¼ business
- objective - 1 store

Trip II — Lesson 18

Verbal Orientation:

Return trip also
- start closer to business area
- use same route as above
- 2 stores - 1 in each block
- should go from block to block by way of traffic light if possible

Trip III Lesson 19

Choice of route

Return trip should be different

- 4 objectives - 2 of which must go inside - pretend to shop
- watch his use of public

Lesson 20

Objective: Drop Offs

Purpose: To give client experience in finding an objective in an area he has worked in without any information from the instructor as to where he is let off or where the objective is

- must use technique learned
- must use cues available to him
- should not ask public for help at this point

Three or Four drop-offs should be done.

Lesson 21

Objective: Independent travel in strange Residential-Business Area.

Purpose; To give client an opportunity to be completely on his own.

Procedure: Drop off in area to be traveled - only information given: street he is on and his objective. Number of building. Encouraged to use public for information he needs to get to Objective.

- must ask directions
- where are traffic lights
- should not allow himself to be led to objective

1 or 2 depending on time.

CITY OF ROCHESTER

Lesson 1

Objective: Public Transporation

Purpose: To acquaint the client with the ways and means of independent bus travel.

Procedure: Make an appointment with either Mr. Perry, Mr. Pecrella, or Mr. Buckley at Rochester Transit Corporation. Orientation to bus:

- sound of doors, engine, etc.
- rails
- cash box
- finding a seat
- emergency exits
- general shape of bus
- two types of buses
- various steps encountered

Lesson 2

Objective: Public transportation

Purpose: To acquaint client with ways and means of independent bus travel.

Procedure: Actual bus trips should be done.

Trip I

- bring client to bus stop - wait - board
- several blocks - then off - return trip
- orientation to nearest bus stop

Trip II

- travel alone to bus stop
- board - then to city - orientation to city stop
- orientation to transfering procedure
- return trip

Trip III

- alone to bus stop
- to city then transfer to another line
- ride several blocks - off - back to city - transfer
- return to home

Lesson 3

Objective: Orientation to City Business Area.

Purpose: To enable client to have experience traveling in the downtown area of Rochester.

Procedure: Bus to city. Orientation begins at whatever corner bus unloads.

either - Main and Clinton
Main and St. Paul
Main and State

- orientation should be concerned with both sides of Main Street - going East and West as well as North and South directions.
- stores, restaurants, banks, etc., should be pointed out.
- lights
- policeman
- bus pick up and unloading areas
- Midtown Plaza Area

Lesson 4

Objective: Trips in the downtown area.

Purpose: To enable client to have experience traveling in the downtown area.

Procedure: Trips should center around either of the three main corners.

- use both sides of Main Street
- North and South directions as well
- two trips sufficient - one should include multiple objectives
- explanation of how to use sighted help
    - directions
    - objectives
    - information about lights, crosswalks
    - buses

Lesson 5

Objective: Standard trip

Purpose: Performance comparison

Procedure: To be done all at once or in parts depending upon client's previous performance.

Verbal directions only:

- Start on South East corner of Main and Clinton, travel East along Main Street, pass Midtown Plaza to
- Elm Street, cross Elm Street, travel until corner of East Avenue and Main Street.
- cross East Avenue, turn left (face North), cross Main Street
- continue North on Franklin Street to North Street
- cross North Street, then turn left and cross Franklin (previous orientation to this corner important) to entrance to Sibley's
- continue on Franklin to Main, take right at Main then West to Clinton Avenue North

Lesson Plans for Partially Sighted

I

Evaluation of Client's Remaining Vision

Procedure: Discussion with client in order to gather information about his vision in comparison with eye report and to establish rapport.

questions concerned with -

- What does client see
- how well does he see it
- does the degree of light make a difference
- does it change from day to day
- what is the distance at which he can see objects
- does he see colors
- does he take drops and if so, do they affect the vision and for how long
- does he feel comfortable using his vision
- does he have a fear of falling downstairs
- does he wish people would know at a glance that he is partially sighted.

II

Further Evaluation of Vision's Usefulness

Procedure: Observe client moving about: Inside

- use of arms and hands for protection
- balance
- movements of head to get a better image
- shuffling of feet near stairs
- orientation in the house
- is he trying too hard

Observe client moving about outside:

- is his direction fairly straight
- is he using his feet to follow the grass
- ask him to point out
    - trees as he nears them
    - poles to the side
    - where the grass and sidewalk meet
    - cars (color perhaps)
    - traffic signal (perhaps)
    - curb at various distances

III

Plan of Action

Procedure: Based on the evaluation of remaining vision a plan of instruction is set up that as close as possible fits the need of the client.

Examples:

1. If the client's vision is such, that he sees well but does not see curbs, then a cane short or long, collapsible or not is used. The cane is held in front, in contact with the ground and will drop off indicating a step down or up. Some trips follow to insure confidence and provide experience.
2. If the client's vision is such that he sees well enough to travel on dull days but not on bright days, then long cane should be taught. Duration of the training need not be as long as for those who have no useful vision, but trips in the sun should be done and experience with obstacles, street crossings, etc., should be provided.
3. If client's vision is such that travel is possible or under any reasonable circumstances without the use of a cane as means

Plan of Action - continued

of detecting obstacles or maintaining direction but the person does not feel confident enough to use his vision, two approaches may be used:

1. encourage the client to move outside by means of trips with instructor close and making suggestions. Familiarization with the method of analyzing a trip, a floor plan, etc., for easier understanding.

2. encourage the client to use a cane as a symbol of visual impairment, thereby making the asking for directions, etc., easier and less awkward - some trips also.

Hearing Training

by

Eugene Luini

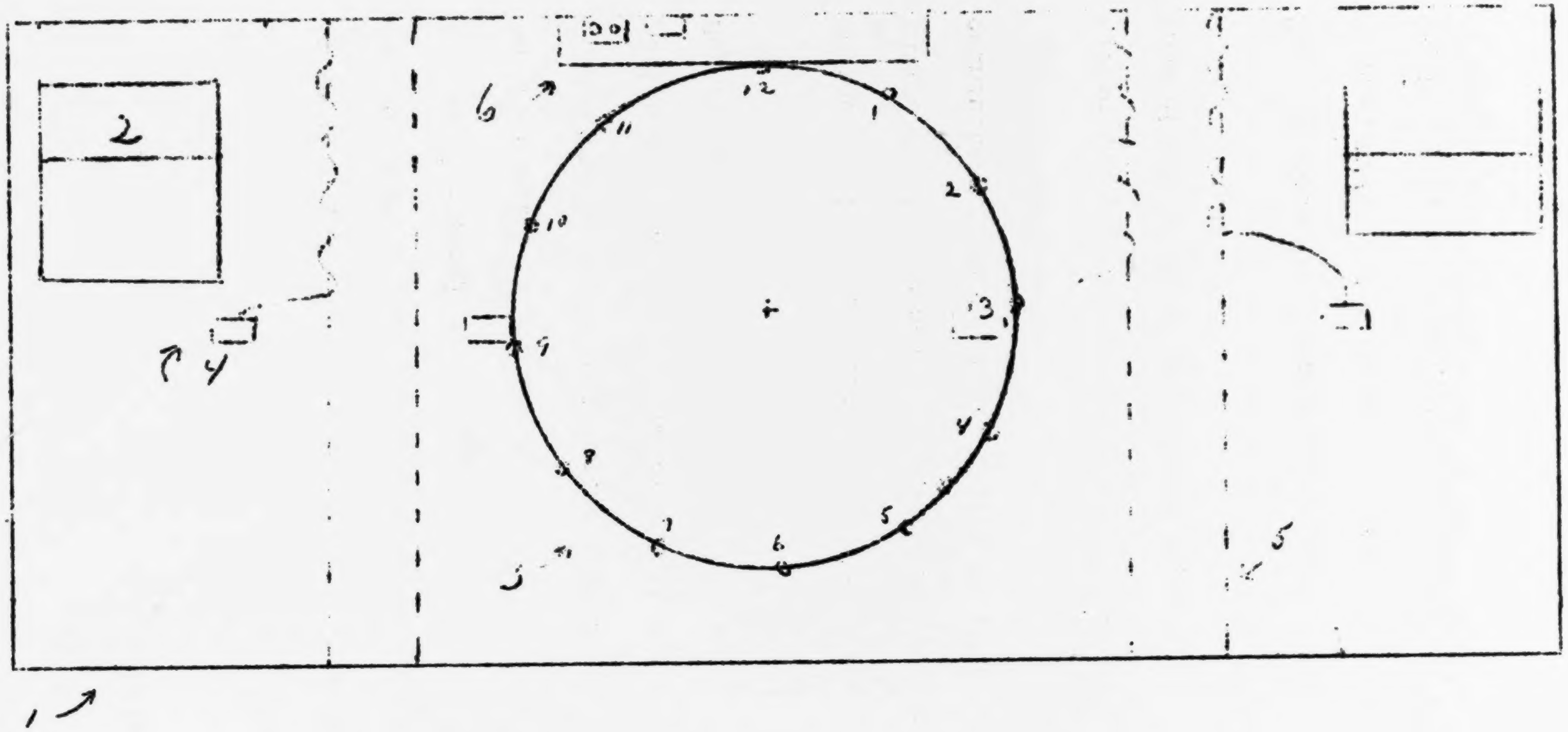
Introduction

On page one, in the drawing depicting the training room, the circle for localization is of special construction. The circle is made up of four sections of ¼ inch electrical conduit. There is a 54" (inch) pole rising out of each point on the circle. The poles are spaced every 30 degrees. The four sections are joined together and in so doing a 16 foot in diameter circle is made. The design and construction of this unit was provided by Robert Leach, Building Superintendent.

Choice of electrical equipment, installation of equipment as well as technical advice on its use and aid in experimentation was supplied by William Blowers, counsultant from Rochester Institute of Technology.

Advice and suggestions about recording the traffic patterns was furnished by some of the staff at WHAM radio station.

The tape recorder: Ampex (fine line F 44)
Microphones: A K G (made in Austria)
Speakers: A R_2 (Cambridge)


1
2
3
4
5
6
12
1
2
3
4
5
6
7
8
9
10
11

1. training room (48' x 33')

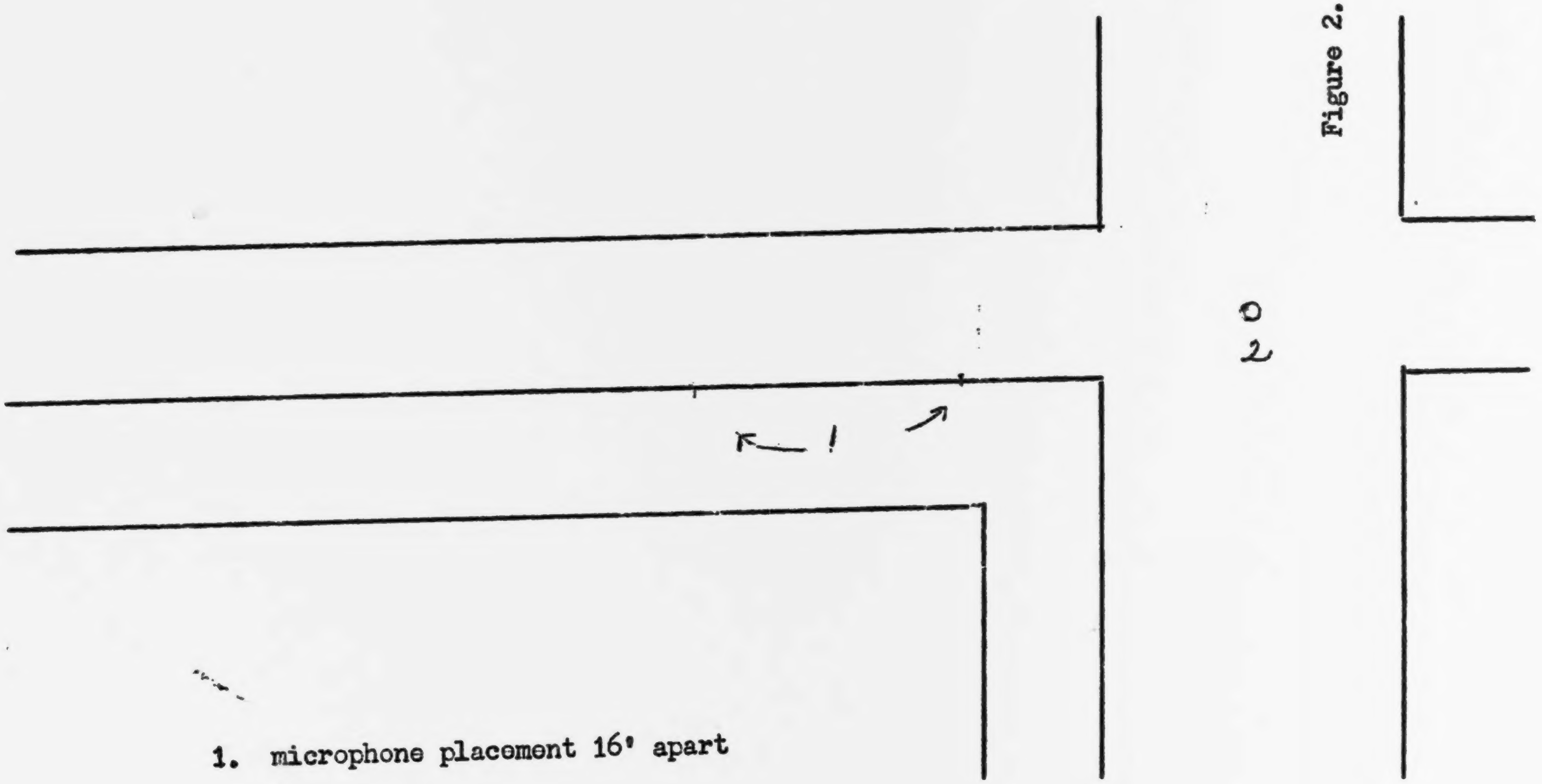
2. wooden sidewalks (4' x 8')

3. localization circle
   12 speakers (16' in diameter)

4. sound speakers H R_2

5. guy wires for speaker with placement

6. Ampex tape recorder and amplifier and central panel



1. microphone placement 16' apart
2. traffic signal

Figure 2.

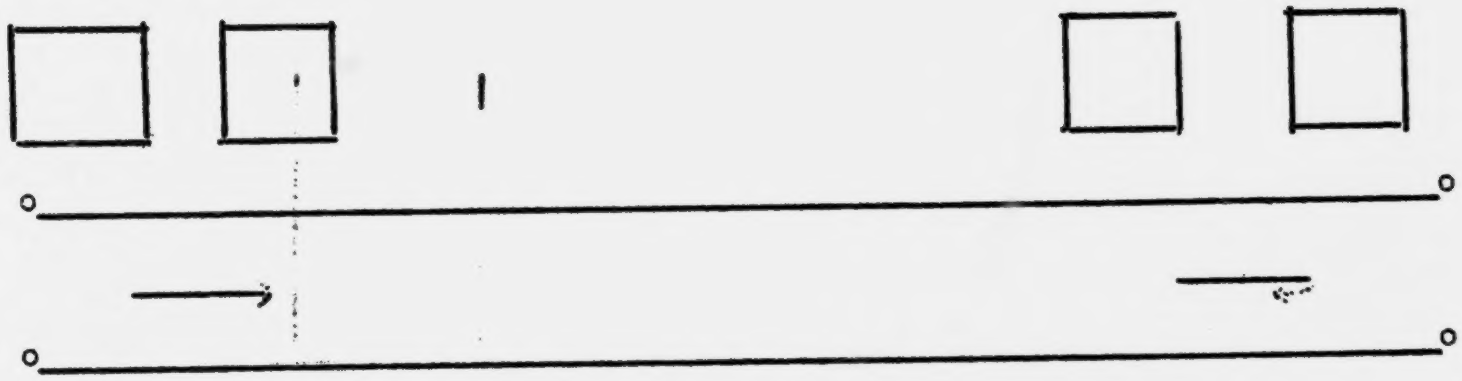


Figure three indicates, that at the very beginning of mobility training the client is encouraged to use sound as a cue for orientation. A ten foot path is made by using guide ropes. The speakers are set parallel to the area to be traveled. Music is played through the speakers. The music provides the parallel sound and has a calming effect on the client.

The client is encouraged to turn around at the end of the course and put the traffic sound at his side. If he does not line up correctly, he receives a tactual clue from the guide ropes after he has taken several steps.

I found this set up helpful because it allows the client to develop good cane technique without getting bored too quickly. In addition, obstacles can be placed within the area and traffic sounds substituted for music. You then find that your explanations of stepping to the inside to pass an obstacle making more sense to the client when he hears the traffic at his side.

Figure 3

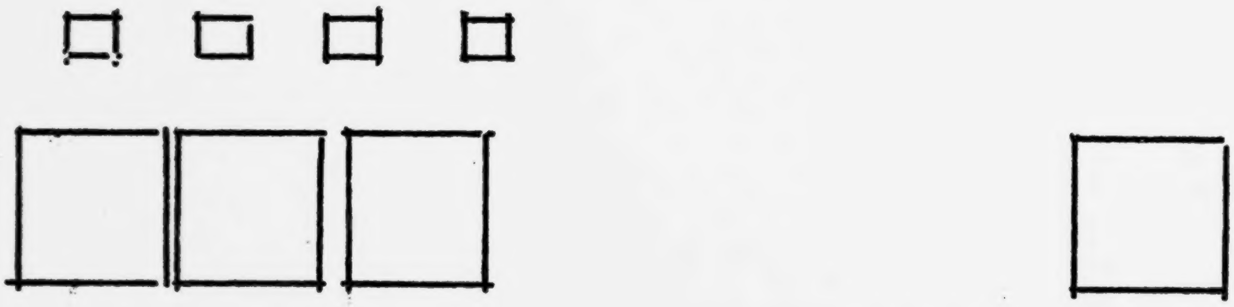
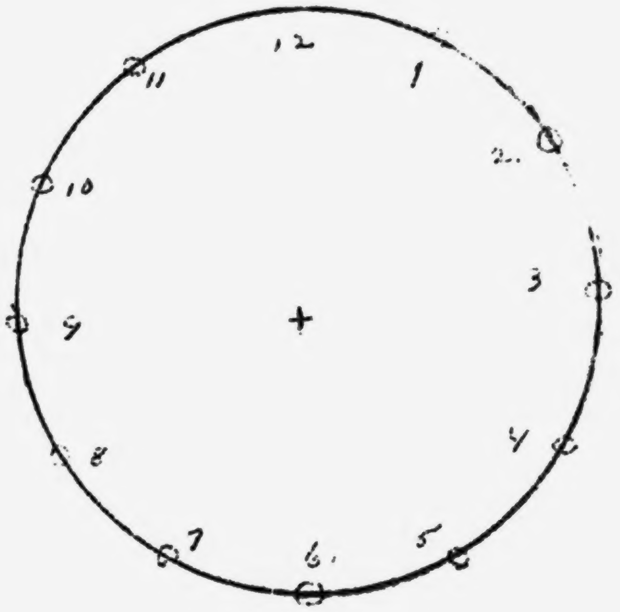


Figure four illustrates how the equipment can be used to teach the proper procedure for approaching the curb. The four speakers are parallel to the course and the platforms are put together end to end. The distance from the edge of the sidewalk to the curb is (24').

The client can walk parallel to the sound of the traffic and he also has the edge of the platform on either side to give him direction. Different starting positions are picked until the client is reacting to the cane movement at the edge of the curb.

(The edge of the curb is rounded even though it does not appear that way in the drawing).

Figure 4.



External speakers were used for localization training in order to provide an opportunity for the client to perform in relation to the sound cues. The client is seated in a swivel chair in the center of the circle. He is placed so that he is facing number (12). Each speaker is turned on and off in a clock-wise sequence. The sound is music or traffic. This is repeated until the client understands just what is taking place and what he is expected to do.

I have tried a number of different things while using this set up. (1) I have asked the client to name the speaker turned on and then to turn in the chair until he is facing it. (2) In the next phase he is asked to repeat the above but then get out of his chair and walk the 8 feet toward sound source. (3) In step three he is standing in the center of the circle and asked to turn, face the sound and walk to it. (4) In step four he walks to whatever speaker is on.

Figure 5.

Figure 5 - continued

Then he waits until another is turned on and then he walks to it. The pattern varies (e. g., from 12 to 6, 6 to 11, 11 to 5, 5 to 9, etc.,). (5) In step five, the client is asked to place the sound heard on his right side. Then another speaker is turned on in order to provide feedback as to the correctness of the turn. For example, speaker 3 is turned on while client is facing 9. If he turns properly, when 12 is turned on it should be in front of him. If he is in error, 1 and 2 can be used to demonstrate to him just how he turned.

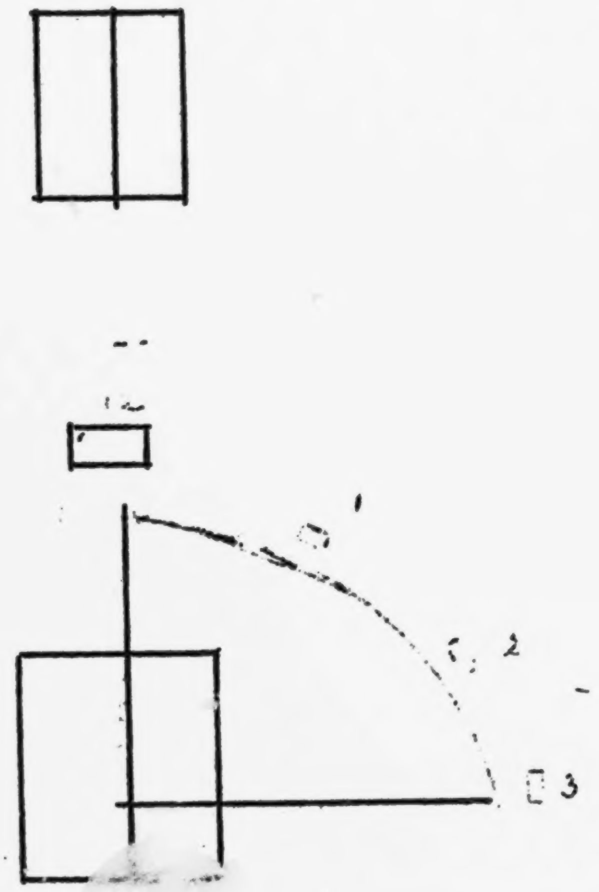


Figure (6) illustrates a refinement of the clock method as it is used to demonstrate the lining up procedure at the curb. Speaker (3) is turned on and the client is asked to put it on his right side. 12 is then turned on in order to provide a check. He then steps off curb and walks a few steps. He is told that he must hear the sound as (3) and not 1 or 2 if he is lined up correctly.

Figure 6.

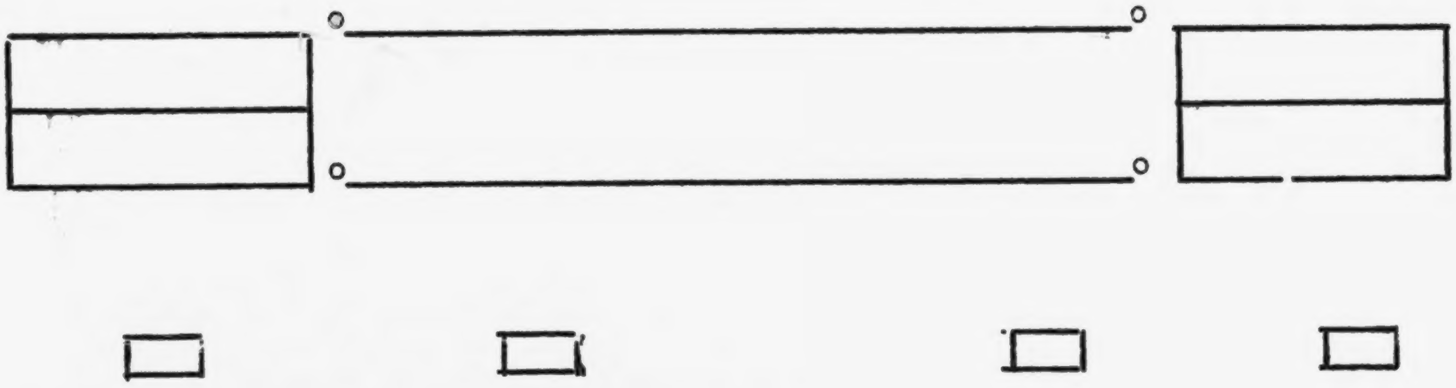
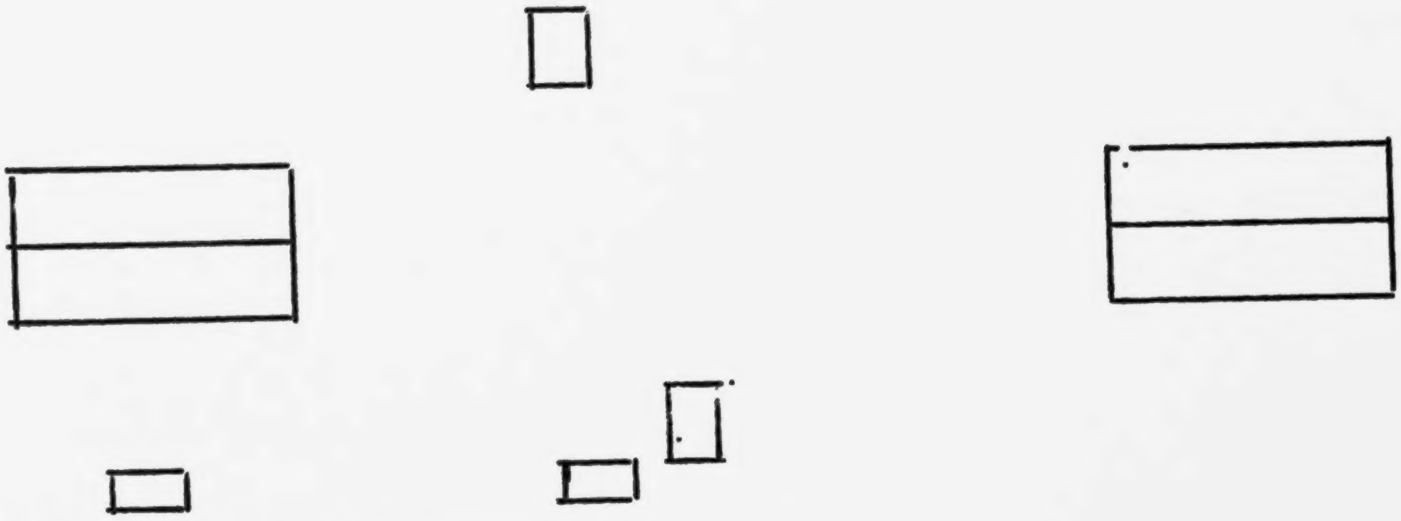


Figure 7 illustrates an extension of the lining up demonstration. The use of guide ropes, speakers at the side and the sidewalks makes it possible to have the client perform the following tasks. (1) approach and find the curb (figure 4) (2) line up with the parallel sound (figures 5 and 6) and actually cross and find curb on other side (figure 7).

The guide ropes are eventually taken away.

Figure 7.



In figure 8 cross traffic is introduced. The tape was made so that the accleration at a light change can be heard. The client does all that is depicted in figure 7 but he now must wait until the traffic pattern is with him.

When he hears the cars acclerate on his side, then he can go. He also has to maintain his direction.

Figure 8.